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(54) Title: APPARATUSES AND METHODS FOR AUTOMATIC WAVELENGTH-LOCKING OF AN OPTICAL TRANSMITTER TO THE WAVELENGTH OF AN INJECTED INCOHERENT LIGHT SIGNAL

(57) Abstract: An optical transmitter has a resonance wavelength characteristic that varies with the refractive index of the optical transmitter. The optical transmitter receives a narrow band injected wavelength signal from an incoherent light source. The controller substantially matches a resonant wavelength of the optical transmitter to the wavelength of the injected wavelength signal by changing the refractive index of the optical transmitter to substantially match the resonant wavelength of the optical transmitter and the wavelength of the injected wavelength signal. A detector measures a parameter of the optical transmitter to provide a feedback signal to a controller to determine when the resonant wavelength of the optical transmitter and the wavelength of the injected wavelength signal are substantially matched.

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